

Patent Claims

1. A method for the production of plastics containing fillers, characterized in that

- 5    - a reactive precursor of the filler is mixed the polymer precursor,  
- the reactive precursor of the filler is converted into the filler and  
- the polymer precursor is polymerized to give the  
10    plastic.

2. The method as claimed in claim 1, characterized in that the fillers are selected from inorganic compounds whose particle size is preferably less than 300 nm, but  
15    as far as possible even smaller and in particular 5-50 nm with a narrow size distribution.

3. The method as claimed in claim 1 or 2, characterized in that the fillers are selected from oxides, sulfides, phosphates, carbonates, fluorides, particularly from  $Mg(OH)_2$ ,  $Mg_6Al_2(OH)_{16}(CO_3)$ ,  $SiO_2$ ,  $TiO_2$ ,  $ZrO_2$ ,  $BaTiO_3$ ,  $PbZrO_3$ ,  $LiNbO_3$ , zeolite,  $MgO$ ,  $CaO$ ,  $ZnO$ ,  $Fe_3O_4$ ,  $ZnS$ ,  $CdS$ ,  $CaCO_3$ ,  $BaCO_3$ ,  $CaSO_4$ ,  $CaF_2$  and  $BaF_2$ .

25    4. The method as claimed in any of claims 1 to 3, characterized in that the polymer precursor is present in the oil phase of a w/o emulsion.

30    5. The method as claimed in claim 4, characterized in that the reactive precursor of the filler reacts with the, or in the, water present in the emulsion with formation of the filler.

35    6. The method as claimed in any of claims 1 to 5, characterized in that the polymerization of the polymer precursor is effected as mass polymerization.

7. The method as claimed in any of claims 1 to 6,  
characterized in that the plastic is selected from  
transparent plastics, in particular based on  
polyacrylic acids and salts thereof, polymethacrylic  
5 acid and salts thereof, polystyrenes, polyolefins and  
any desired copolymers of the above.

8. The method as claimed in any of claims 1 to 7 for  
the production of transparent moldings.

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9. The method as claimed in any of claims 1 to 7 for  
the production of transparent coatings on surfaces.